

Patent Claims

1. Arrangement for the detection of fluorescent light with at least one imaging microscope unit and at least one device component for analyzing molecular interactions in small volumes, characterized in that measurement locations for the analysis of molecular interaction are determined and selected in at least two dimensions by means of the imaging method, the imaging microscope unit and the device components are operated with a shared control unit, and at least the analysis results of the device components are graphically depicted via the control unit and a computer.
2. Arrangement according to claim 1, wherein the analysis results are correlated with the image of the imaging microscope unit.
3. Arrangement according to claim 1 or 2, wherein the analysis of molecular interactions is carried out by means of fluorescence correlation spectroscopy (FCS) and the unit for imaging is based on the principle of laser scanning microscopy.
4. Arrangement according to one of claims 1 to 3, wherein the selection of the specimen location for FCS measurement is carried out manually and/or automatically by means of a movable specimen table and/or vertical adjustment of the objective.
5. Arrangement according to one of claims 1 to 4, wherein the selection of the specimen location is carried out manually and/or automatically for the FCS measurement by means of at least one scanner.
6. Arrangement for detecting the light coming from an illuminated specimen, particularly according to one of claims 1 to 5, comprising a laser scanning microscope (LSM) and an arrangement which is coupled into the

illumination beam path of the LSM between the scanner of the LSM and the specimen for excitation and detection by FCS via a shared evaluation unit.

7. Arrangement for detecting the light coming from an illuminated specimen, particularly according to one of claims 1 to 5, comprising a laser scanning microscope (LSM), wherein, besides the LSM detectors, additional detectors are arranged following the scanner of the LSM in the detection direction for detecting FCS signals and/or the operating mode of the LSM detectors is switched to FCS evaluation by a shared control unit.

8. Method for detecting the light coming from an illuminated specimen, particularly according to one of claims 1 to 7, wherein the specimen is scanned by illumination light from point to point at least in two dimensions and the light coming from the specimen is detected via at least a first detector and an FCS evaluation is carried out during the scanning process and/or after the scanning process for at least one specimen point.

9. Method according to claim 8, wherein the value detected during scanning and at least one value detected in the FCS evaluation are stored and allocated in the storage for at least one specimen point.

10. Method according to claim 8 or 9, wherein the preceding method steps are carried out for a plurality of specimen points which are preselected automatically and/or manually.

11. Method according to one of claims 8 to 10, wherein means are provided for shared graphic depiction of the values determined during scanning and during the FCS evaluation.